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ABSTRACT

Several reasons exist for the wide variation in estimates on the prevalence of alcohol abuse among women from one study to another. An attempt to establish the prevalence of alcohol abuse among both men and women in the working population employed the Short Michigan Alcoholism Screening Test (SMAST) and the Iowa Alcoholic Stages Index (ASI) as screening instruments. Over 3200 employees from four organizations responded to the questionnaire. Results showed that the ASI identified relatively more females in the early stages of alcoholism and identified early-stage males and females in the same proportions. The ASI was more likely than the SMAST to identify early-stage or at-risk employees of either sex. The ASI was also better at discriminating between non-alcoholic women and women at risk. The findings suggest that the ASI is a more appropriate screening instrument than the SMAST, which was standardized on male subjects. Evidence also indicates that women make a greater effort to conceal their alcoholism, give different reasons for drinking than men, and are less easy to identify than men. (NRB)

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ALCOHOLISM SCREENING INSTRUMENTS AND PREVALENCE OF ALCOHOL PROBLEMS IN MALE AND FEMALE EMPLOYEES

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Paper presented at the Annual Meeting of the Eastern Psychological Association, New York, NY, April 22-25, 1981.

Alcoholism Screening Instruments and Prevalence of Alcohol Problems in Male and Female Employees

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Existing data on the prevalence of alcohol abuse among women cannot be used for reliable projection to the U.S. population because of the wide variation in estimates from one study to another. Even today different sources estimate the male to female ratio of alcohol abuse to range anywhere from 6:1 to 1:1.

The reasons for these disparate estimates appear to be multiple:

1. Existing alcoholism screening instruments were developed for and validated on samples that were primarily or entirely male. Even where females were included in the samples, no separate reliability or validity data were compiled for women, usually because the number of females in the sample was too low. Screening instruments tend to underestimate prevalence, even for males, because they were developed largely on self-identified alcoholic samples. Since women appear to be even less likely than men to admit to drinking problems, the amount of underestimation should be even greater for females.

2. In addition to the greater denial of alcohol abuse among women, another reason for the varying estimates is that families and physicians are more likely to conceal alcoholism problems among women. This occurs because society still attaches a greater stigma to alcoholism among women than among men.

3. Women are more likely than men to be solitary drinkers or to drink at home. Since a large proportion of the female population is not in the labor force, alcoholism problems are less likely to become known to outsiders. Women are also less likely than men to drink on the job or to be drunk on the job.

4. Because a much larger percentage of women than men work at jobs that are beneath their capability, they are less likely to show job performance deterioration.

Thus, even working women with alcohol problems are less likely than men to be identified as problem drinkers.

Contractual requirements on this project necessitated establishing the prevalence of alcohol abuse among both men and women in our working populations.

We therefore selected as one screening instrument the Short Michigan Alcoholism Screening Test (the SMAST). The SMAST, which is a short version of the Michigan Alcoholism Screening Test, was developed by Selzer. The SMAST is a 13-item test, which has cut-off scores for nonalcoholics, possible alcoholics, and alcoholics. The SMAST, in terms of psychometric properties, is one of the stronger alcoholism screening tests. Many of the items are, however, less appropriate for females, for example, items about drinking-related arrests.

We therefore also included the Iowa Alcoholic Stages Index (the ASI) developed by Mulford. The ASI consists of four discrete scales, and permits categorization of respondents into nonalcoholics, and four different stages of alcoholism, from early to very late. The ASI contains items that measure various dimensions of drinking: behavior, attitudes, and consequences. It was developed largely on non-institutionalized samples.

Over 3,200 employees responded to our questionnaire. The sex distribution of respondents closely reflected the sex distribution of the populations sampled (56% female and 44% male). The overall response rate for the four organizations was 43%. (Response rates were significantly higher from the employees of the two organizations at which follow-up was possible.)

Rates of response differed across job-classification levels and by race/ethnicity. Neither of these strata, however, interacted with sex on response rate.

The distribution of male and female respondents by age did not differ. In spite of the similarity of the age distributions, however, 74% of the men, but only 47% of the women were married and living with their spouses. Men and women also

differed in salary distribution, since 67% of the women, but 38% of the men earned less than $16,000 a year.

For purposes of comparison of scores on the ASI and SMAST, we collapsed the four ASI stages into two categories: early and later stages. Our rationale for combining later stages was that respondents identified as "early" by the ASI would be comparable to those identified as "possible" by the SMAST. In both cases, these are respondents who score above the nonalcoholic range, but below the definite alcoholic range. In other words, these are people at risk. Many of them will somehow manage to solve their problems without becoming alcoholic. This remission of problem behavior or substitution of a different type of problem behavior is a common phenomenon in addiction.

The results were consistent with our expectations, in that the ASI picked up relatively more females in the early stages. The ASI, in fact, picked up early-stage males and females in the same proportions (20.9% of male and 19.2% of female respondents). The respective proportions for the SMAST "possible alcoholics" were 13.7% of males and 9.8% of females. Thus, the ASI appears to be more likely than the SMAST to identify early-stage or at-risk employees of either sex. Of even greater interest here, however, is the fact that the ratio of at-risk employees on the ASI is virtually identical for males and females. Therefore, if the ASI early-stage alcoholics and the SMAST possible alcoholics constitute the population at-risk, then the ASI is especially better at discriminating between non-alcoholic women and women at risk. The proportions of females picked up in ASI later stages (3.5%) and SMAST "alcoholic" stage (7.7%) were much smaller than the proportions of males in those categories (7.4% on ASI and 11.5% on SMAST). The reliability coefficients (Cronbach's alpha and the Spearman-Brown formula) were higher for the ASI than the SMAST for both males and females. These results are consonant with our hypothesis that the SMAST, which had been standardized on male subjects, would be less effective than the ASI for screening females with alcohol problems.

When we looked at the ASI scales, we found that they varied in the relative proportions of men and women identified. The Troubles Due to Drinking subscale, yielded a ratio of 3.7 males to 1 female. The Preoccupied Drinking subscale yielded a ratio of 2.3 to 1, the Personal Effects subscale a ratio of 1.3 to 1, and the Uncontrolled Drinking subscale a ratio of 1.1 to 1.

The results on the subscales were consonant with our expectations. The Troubles scale, for example, contains arrest items and job-problem items. The Personal Effects scale contains items that relate to self-appraisal, such as "drinking helps me feel more satisfied with myself." Items on the Uncontrolled scale quite literally pertain to inability to control drinking.

Sex, race/ethnicity, and job classification were all differentially associated with drinking problems. Women were relatively more likely to fall into the early stage and men into the later stages. A three-way tabulation of responoents by ASI classification, sex, race/ethnicity, and salary indicated that, with salary adjusted, there was a higher frequency of problem drinking among minority groups. This race/ethnicity difference is particularly marked for females.

For both males and females, and on both the ASI and the SMAST the percentages of alcoholics were significantly higher among those who responded to the follow-up than among those who responded to the original mailing. The implication of these large increases is that survey results underestimate the extent of the problem. There is considerable evidence in the survey literature that late responders and non-responders are more likely than early responders to fall into critical categories. Of particular interest was an especially large increase in the percentage of women with alcohol problems. Z-values used to test the difference in proportions between first and second-wave respondents were significant at the .05 level for males, but at the .01 level for females. This appears to support the prevailing view that women are even more reluctant than men to admit to drinking problems.

When we looked at referrals to the Employee Assistance Programs, we found that the primary diagnosis was alcoholism for 57% of the males, but only 19% of the females referred. The diagnostic category which accounted for the largest number of women referred was "personality problems." Forty-six percent of female clients, and 22% of male clients were so classified. The primary categorization of "family problems" accounted for another 19% of the female and 6% of the male referrals.

The client data were also analyzed to determine the frequency of various job problems associated with alcoholism. We found that absenteeism was characteristic of 70% of the female alcoholics, but only 46% of the male alcoholics. Drinking and intoxication on the job characterized 38% of the male alcoholics, but only 6% of the female alcoholics.

These data confirmed the remarks of one particularly perceptive supervisor whom we had interviewed earlier. This supervisor had said that women were more embarrassed about their drinking, but that men did not mind showing up with an obvious hangover. He also stated that women were not likely to show performance deterioration, and that women were more likely to attribute their drinking to a family problem. He also said that most male supervisors were uncomfortable about discussing a drinking problem with female subordinates. Our data showed his observations to be correct.

In summary, we have concluded that the ASI is a more appropriate screening instrument than the SMAST. We also found evidence that female alcoholics are less easy to identify. Among the reasons for this are:

Women <u>do</u> make a greater effort to conceal their alcoholism. The evidence for this is that they are significantly less likely than men to drink at work or to appear on the job while intoxicated. The higher rate of absenteeism associated with female alcoholics appears to be further evidence of attempts at concealment of a drinking problem.

It has been frequently stated in the literature that female alcoholism is more likely to be precipitated by a crisis--some traumatic event, such as divorce or death, is given as the precipitating factor. We found this view to be widely accepted by supervisors and even employee assistance program personnel. This interpretation of a major "cause" of drinking in women has, however, not been adequately documented. Since it is based on self-reports, it is suspect as a socially-acceptable reason for socially-stigmatized behavior. It is therefore possible that some of the female cases included under the "family-problems" and "personality-problems" categories would have been more accurately diagnosed as "alcoholism" had the clients been men.